

REMARKS

Claims 21-29, 33-35, 39 and 40 are pending in the instant application, and are subject to various rejections asserted in the Office Action dated January 8, 2009. In view of the amendments to the claims and foregoing remarks, Applicants believe that the rejections should be withdrawn and that all pending claims are in condition for allowance.

REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH, ENABLEMENT

The Office Action states that claim 23 is rejected under 35 U.S.C. § 112, first paragraph as not enabling one skilled in the art to make or use the invention.¹ The Examiner asserts that claim 23 is not enabled by the Specification because the Specification fails to identify a method of obtaining the microorganisms "Tr 115" and "Tr 116". Tr 115 and Tr 116 are commercially available microorganisms that one skilled in the art would be able to readily purchase. Examples of entities that sell these microorganisms are:

- The National Institute of Agrobiological Sciences, 2-1-2 Kannondai, Tsukuba, Ibaraki 3058602, Japan, Fax: 81-29-838-7054; Email: genebank@nias.affrc.go.jp;
- DSMZ Deutsche Sammlung von Mikroorganismen und Zellkulturen, D-38124 Braunschweig, Germany. Tel: +49-531-2616 220, Fax: +49-531-2616 418, Email: mail@dsmz.de;
- NCAIM National Collection of Agricultural & Industrial Microorganisms, Department of Microbiology and Biotechnology, University of Horticulture and Food Industry, Somloi ut 14-16, H-1118, Budapest, Hungary. Tel: +36-1-2671390, Fax: +36-1-2671304, Email: DBI0185/H8136tor@huella.bitnet;
- FCUG Fungal Cultures, Department of Systematic Botany, University of Goteborg, Carl Skottsbergs Gata 22, S-41319, Goteborg, Sweden, Phone: +46-18-182794, Fax: +46-18-508702, Email: nils.hallenberg@systbot.gu.se;
- MZKIBK Culture Collection of Fungi, National Institute of Chemistry, Hajdrihova 19, P.O. Box 30, SLO-61115, Ljubljana, Slovenia, Phone: +386-61-1232061, Fax: +386-61-1259244/ 1257069, Email: aleksa.cimerman@ki.si; or

¹ Office Action of January 8, 2009 at page 3.

- VKMF All Russian Collection of Microorganisms, Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences, Moscow, Pushchino 142292, USSR. Tel: +7-095-9257448/+7-2316576 prive, Fax: +7-095-9233602, Email: vkm@stack.serpukhov.su.

Since these microorganisms are commercially available, they are known and readily available to the public. Accordingly, Applicants submit that one skilled in the art would be able to purchase the subject microorganisms. As such, the Specification enables one skilled in the art to obtain two or more *Trichoderma* species.

Applicants respectfully submit that the above information is sufficient to establish that the strains recited in claim 23 are commercially available.

Therefore, Applicants respectfully request that this rejection be withdrawn.

REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH, WRITTEN DESCRIPTION

Claims 21-24, 27-29 and 33-35 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. Particularly, claim 21 has been rejected because the Patent Office contends that all combinations of *Trichoderma* are not adequately described in the Specification. Although previously presented claim 23 has been rejected under this section, the Patent Office acknowledges that the species listed in claim 23 are adequately disclosed. Claim 21 has been amended to recite the *Trichoderma* species previously listed in claim 23, and this listing has been deleted from claim 23. Accordingly, withdrawal of this rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH, INDEFINITENESS

Claims 23 and 29 stand rejected under 35 U.S.C. § 112, second paragraph as purportedly being indefinite. Claim 23 has been rejected for its recitation of "variations." "Variations" has been deleted from claim 23, and added to claim 21. Thus, this rejection is reviewed as if applied to claim 21.

Applicants submit that the recitation of "variation" in claim 21 complies with Section 112, second paragraph. One of ordinary skill in the art would understand a "variation"

of species to mean different subspecies, subtypes or strains. Furthermore, the specification provides examples of “variations” in paragraph 47, namely: T 22, Tr 115, Tr 116 KRL-Ag 2 (Rifai) and holomorphs,² and presently pending claim 23 further defines “variation.” Accordingly, claim 21 complies with Section 112 with respect to its use of the word “variation.” For this reason, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim 29 has been rejected for its recitation of “cicatrating paint”. One skilled in the art would understand the phrase “cicatrizing paint” recited in claim 29 as paint capable of wound healing. The Patent Office contends that “it is not clear that ‘cicatrizing paint’ can be considered ‘paint capable of wound healing.’ It could also be considered paint for creating cicatrice.”³ A cicatrice is a scar left behind by the formation of connective tissue over a wound. Therefore, a cicatrizing paint capable of wound healing is a paint that would create a cicatrice. Accordingly, the two alternate meanings proffered are, in fact, the same.

For these reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 21-24 and 35 stand rejected under 35 U.S.C. § 102. The Examiner relied upon several references or combination of references in asserting this rejection. The traversal of this rejection is presented by reviewing each cited reference or combination of references separately.

The Invention Is Novel over McCabe

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 102 (b) as anticipated by United States Patent No. 4,828,600 to McCabe *et al.* (“McCabe”). Claim 21 is an independent claim, and claims 22, 23 and 25 depend from claim 24.

² United States Published Patent Application No. 2004/0151699 to Salinas *et al.* at ¶ [0047].

³ Office Action of January 8, 2009 at page 19.

The invention is directed to two or more live *Trichoderma* species that cohabitate, or do not annihilate each other by the release of secretions. In fact, the cohabitation allows a synergistic release of antifungal metabolites.

In contrast, McCabe “is directed to corn seeds which can be coated with a coating including viable propagules of selected species of *Trichoderma* fungus”⁴ McCabe’s use of the terms “propagule” and “viable” does not indicate that the *Trichoderma* are alive and living in a manner that does not annihilate the other. It merely means that they are capable of propagation or living, and upon propagation, are expected to annihilate each other.

Nothing in McCabe suggests that once two or more species of *Trichoderma* propagate, that they will stimulate the other to excrete biocide without suffering any harm from the excrement and resulting in superior lifecycle and increased secretion. As such, McCabe fails to disclose combining two or more live *Trichoderma* capable of living without annihilating each other. Additionally, McCabe is not directed to a method of applying the composition recited in claim 35 to human beings and/or animals and/or foods.

The Patent Office contends that the claims do not recite that the two or more species of *Trichoderma* propagate. However, the Applicants submit that the claims recite “two or more live *Trichoderma* species” (emphasis added), whereas McCabe’s *Trichoderma* are not live.

Notwithstanding this, claim 21 has been amended to further recite “wherein at least one of the *Trichoderma* species was transformed by exposure to radiation before being contacted with another *Trichoderma* species.” Support for this amendment can be found in the Specification at, for example, paragraph 33 of the published patent application.⁵ Since McCabe also does not teach this limitation, withdrawal of this rejection is respectfully requested.

⁴ McCabe at column 2, lines 18-22.

⁵ United States Published Patent Application No. 2004/0151699 to Salinas *et al.* at ¶ [0033].

The Invention Is Novel over Paau in View of Hermosa and ATCC Catalog

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 102(b) as anticipated by United States Patent No. 5,194,258 to Paau *et al.* ("Paau") in light of Hermosa *et al.* (Applied Environmental Microbiology, 2000, 66(5): 1890-1898) and the ATCC catalog. Claim 21 is an independent claim, and claims 22, 23 and 35 depend from claim 21.

Claim 21 has been amended to further recite "wherein at least one of the *Trichoderma* species was transformed by exposure to radiation before being contacted with another *Trichoderma* species." Since Paau does not teach this limitation, withdrawal of this rejection is respectfully requested.

The Invention Is Novel over Richard

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 102(b) as anticipated by Richard (U.S. Pat. No. 4,678,669). Claim 21 is an independent claim, and claims 22, 23 and 35 depend from claim 21.

Richard is directed to immunizing commensals, which are microorganisms that exist in an internal environment instead of an external environment such as soil (column 1, lines 52-55). Immunizing commensals grow internally in a plant or other host being protected (column 1, lines 56-59). In contrast, claims 21-23 are directed to a composition having two or more live *Trichoderma* species, not a plant as described in Richard. Claim 35 is directed to a method of applying the composition to human beings and/or animals and/or foods, not inserting microorganisms into a plant as disclosed in Richard. As such, claims 21-23 and 35 are novel over Richard.

Notwithstanding the above, claim 21 have been amended to further recite "wherein at least one of the *Trichoderma* species was transformed by exposure to radiation before being contacted with another *Trichoderma* species." Since Richard does not teach this limitation, withdrawal of this rejection is respectfully requested.

The Invention Is Novel over Reinbergen

Claims 21-24 and 35 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Reinbergen (WO 97/031879). Claim 21 is an independent claim, and claims 22-24 and 35 depend from claim 21.

According to MPEP § 2131, the Examiner has the burden to provide references that describe each and every element of the claimed invention in complete detail as claimed. However, Reinbergen does not adequately describe using two or more live *Trichoderma*, as recited in claims 21-24, to warrant a rejection under Section 102. Instead, Reinbergen discloses a solution containing microbial spores and/or colonies. The reference does not teach that the microbes will not compete or annihilate each other if propagated. Nothing in Reinbergen suggests that once two or more species of *Trichoderma* propagate, that they will stimulate the other to excrete biocide without suffering any harm from the excrement and resulting in superior lifecycle and increased secretion. As such, Reinbergen fails to disclose each and every element claimed in claims 21-24 and 35, particularly a composition with two or more live *Trichoderma* because it is anticipated that the microbes disclosed in Reinbergen would annihilate each other upon propagation.

Notwithstanding the above, claim 21 was amended to further recite “wherein at least one of the *Trichoderma* species was transformed by exposure to radiation before being contacted with another *Trichoderma* species.” Since Reinbergen does not teach this limitation, withdrawal of this rejection is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 21-29, 33-35, 39 and 40 stand rejected as being unpatentable under 35 U.S.C. § 103 in view of several combinations of references. The traversal of this rejection is presented by reviewing each combination of the references separately.

The Invention Is Patentable over McCabe in View of Harman

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCabe in view of Harman (Plant Disease, 2000, 84(4): 377-393). For the reasons discussed above, McCabe does not disclose each and every element recited in claimed 21-23 and 35. McCabe's shortcomings are not overcome by Harman's disclosure. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over Paau, Hermosa and ATCC Catalog in View of Harman

Claims 21-23 and 33-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Paau, Hermosa and the ATCC catalog in view of Harman. For the reasons discussed above, Paau does not disclose each and every element recited in claimed 21-23 and 33-35. Paau's shortcomings are not overcome by Harman's disclosure. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over McCabe, Paau or Richard in View of Howell

Claims 21-23, 29 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCabe or Paau or Richard in view of Howell et al. (Journal of Cotton Science, 1997, 1: 15-20). As discussed above, McCabe, Paau and Richard all fail to teach each and every element of the invention as recited in claims 21-23 and 35. These shortcomings are not overcome by Howell. Since claim 29 is a claim that includes the composition as recited in claim 21, McCabe, Paau and Richard also fail to teach each and every element in the invention as recited in claim 29, and these shortcomings are likewise not overcome by Howell. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over Reinbergen in View of Harman

Claims 21-24 and 33-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen in view of Harman. As discussed above, Reinbergen fails to disclose each and every element of the inventions as recited in claims 21-24 and 35. These discussed shortcomings are overcome by Harman. Additionally, since claims 33 and 34

ultimately depend on claim 21, and Reinbergen in view of Harman fails to teach each and every element of claim 21, claims 33 and 34 are likewise patentable over Reinbergen in view of Harman. For these reasons, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The Invention Is Patentable over Reinbergen in View of Gromovykh

Claims 21-26 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen in view of Gromovykh et al. (Proceedings of 1999 Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions). As discussed above, Reinbergen fails to disclose each and every element of the invention as recited in claims 21-24 and 35. These discussed shortcomings are overcome by Gromovykh. Additionally, since claims 25 and 26 ultimately depend from claim 21, claims 25 and 26 are likewise patentable over Reinbergen in view of Gromovykh. For these reasons, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The Invention Is Patentable over Reinbergen and Gromovukh in View of Panizzi

Claims 21-28 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen and Gromovykh in view of Panizzi (Journal of Ethnopharmacology, 79 (2002): 165-168). As discussed above, Reinbergen and Gromovykh fail to disclose each and every element of the invention as recited in claims 21-26 and 35. These discussed shortcomings are overcome by Panizzi. Since claims 27 and 28 ultimately depend from claim 21, claims 27 and 28 are likewise patentable over Reinbergen and Gromovykh in view of Panizzi.

Additionally, the record fails to cite any reason or motivation to combine Panizzi with Reinbergen and Gromovykh. A rejection under Section 103 can only be supported if the Examiner identifies a reason why a skilled artisan would combine the elements in the same manner as the applicant. *KSR Int'l v. Teleflex*, No. 04-1350 at 15. The reason or motivation cited cannot be based on hindsight. MPEP § 2145. In this case, the cited motivation to combine Panizzi with Reinbergen and Gromovykh is improperly based on hindsight. There is no

motivation or reason cited in Panizzi, Reinbergen or Gromovykh to combine *Rubus ulmifolius* with *Trichoderma*.

For these reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over Reinbergen in View of Howell

Claims 21-24, 29 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen in view of Howell. As discussed above, Reinbergen fails to disclose each and every element of the invention as recited in claims 21-24 and 35. These discussed shortcomings are overcome by Howell. Since claim 29 recites using a composition as claimed in 21, Reinbergen in view of Howell likewise do not disclose each and every element as recited in claim 29. For these reasons, claims 21-24, 29 and 35 are patentable over Reinbergen in view of Howell. Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The Invention Is Patentable over Reinbergen and Gromovykh in View of Toet and Yeoh

Claims 21-26, 35, 39 and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen and Gromovykh in view of Toet (U.S. Pat. No. 5,330,912) and Yeoh (World Journal of Microbiology & Biotechnology, 11 (1995): 678-680). As discussed above, Reinbergen and Gromovykh fail to disclose each and every element of the invention as recited in claims 21-26 and 35. These discussed shortcomings are overcome by Toet or Yeoh. Since claims 39 and 40 ultimately depend from claim 21, claims 39 and 40 are likewise patentable over Reinbergen and Gromovykh in view of Toet or Yeoh.

NEW CLAIMS

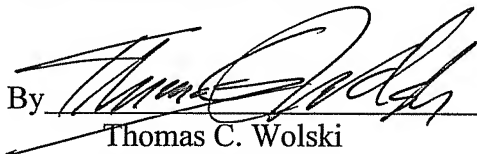
Applicants have added new claims 41 and 42. These claims depend from claim 21 and are believed to be patentable for the same reasons claim 21 is patentable over the cited references. Support for these new claims can be found in the Specification at, for example, ¶¶ 33-41.⁶

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that pending claims 21-29-, 33-35 and 39-42 in the instant application are novel and patentable over the cited references and are in condition for allowance. Applicants wish to call the Examiner's attention to the fact that the European Patent Office has allowed similar claims. Copies of the European Patent and Certificate of Registration are enclosed herewith. Accordingly, reconsideration and withdrawal of the rejections and the issuance of a Notice of Allowance are respectfully requested. Should the Examiner have any questions or concerns, the Examiner is invited to contact Applicants' undersigned attorney by telephone at 412-471-8815.

Respectfully submitted,

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⁶ United States Published Application No. 2004/0151699 to Salinas *et al.* at ¶¶ [0033] – [0041].